

Industrial Solvent Cleaning Operations RACT

SBCA-SOR-0201

A 1-Hour Ozone Attainment Demonstration Plan was due from Wisconsin Department of Natural Resources (DNR) to the US Environmental Protection Agency (EPA) by December 2000. This Plan was necessary to meet EPA's requirements for a complete State Implementation Plan (SIP). Included in the demonstration plan was the rule for reasonably available control technology (RACT) on industrial solvent cleaning operations. This rule is detailed in s. NR 423.035, Wis. Adm. Code.

For this rule **industrial cleaning** means: the process of cleaning products, product components, tools, equipment or general work areas during production, repair, maintenance or servicing with solvents or solvent solutions.

Applicability and Exemptions

This regulation applies to sources with *industrial cleaning operations* in:

- Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha counties, and whose maximum theoretical emissions (MTE) of volatile organic compounds (VOCs) are greater than 25 tons per year; or
- Kewaunee, Manitowoc, or Sheboygan counties and whose MTE of VOCs is greater than 100 tons per year of VOCs.

The MTE is the level of VOC emissions you would generate if your operations ran continuously at full capacity for the whole year, without taking into account any emissions reductions from any control device installed. To determine if this rule applies to you, the MTE of VOC applies only to those VOCs that are not already regulated by another RACT rule.

If you have a permit, look for one of these code citations after your permit conditions related to VOC emissions to

determine what is already regulated by a RACT rule:

- ✗ sections NR 419.05, 419.06, 419.08;
- ✗ any section in chapters NR 420 and 421;
- ✗ any other section in NR 422 besides 422.035; or
- ✗ sections NR 423.03, 423.04, 423.05, 424.04 or 424.05 in the Wisconsin Administrative Code (Wis. Adm. Code).

The MTE calculations for VOCs from the industrial cleaning operations is as follows:

1. Total MTE of VOCs from the whole facility, and
2. MTE of VOCs that are regulated by an existing VOC RACT rule (see above for list).
3. Then subtract the amount in #2 from the amount in #1.

The amount calculated in #3 must be greater than the applicability levels of 25 TPY or 100 TPY, depending on your location, for this rule to apply.

For assistance on calculating the MTE of VOCs for your facility, you can contact the Small Business Clean Air Assistance Program (SBCAAP). Staff will go over the calculations with you and can send you a fact sheet with some example cal-

culations.

There are also other exemptions that may apply to your industrial cleaning operations, even if your MTE of VOCs from industrial cleaning is greater than the applicability level.

The whole rule does **not** apply to:

- ✗ operations regulated under sections NR 421.06(2)(c), 422.095(6), 422.142(2)(c), 422.15(8), 422.155(3), or 423.03, Wis. Adm. Code;
- ✗ stripping of cured coatings, cured inks or cured adhesives;
- ✗ cleaning operations in graphic arts pre-press areas.

The solvent limits shown in **Table 1** (from s. NR 423.035(3)) do **not** apply to:

- ✗ cleaning associated with lab tests on coatings, adhesives or inks, research development programs and lab tests in quality assurance labs;
- ✗ cleaning of electrostatic application equipment;
- ✗ medical device and pharmaceutical manufacturing facilities using less than 1.5 gal/day of solvents or solvent solutions for industrial cleaning;
- ✗ where the total use of solvent and solvent solutions that exceed the limits in **Table 1** plus coatings and inks exempt in s. NR 422.03(7) is less than 55 gallons during any 12 consecutive months.

⇒ There may still be requirements under the cleaning methods and devices, storage and disposal, control equipment, general prohibitions and recordkeeping that will apply to these.

The solvent limits in **Table 1** and the general prohibitions in the rule (s. NR 423.035(7)) do **not** apply for aerosol cleaning products used in quantities of no more than 160 fluid ounces per day.

The general prohibitions in the rule do **not** apply to:

- ✗ cleaning with spray bottles;
- ✗ cleaning of nozzle tips of automated spray equipment systems except for robotic systems that can be programmed to spray into a closed container;

Table 1	
Activity	VOC Content (lb/gal)
* Product Cleaning	
- General	0.42
- Electrical components	4.2
- Laminated wood (General/PVC)	3.8/5.8
- Medical devices and Pharmac.	6.7
- Screen printing	6.4
* Repair and Maintenance	
- General	0.42
- Electrical components	7.5
- Medical devices and Pharmac.	
~ tool, equipment, machinery	6.7
~ general work surfaces	5.0
- Screen printing	4.6
* Cleaning of application equipment (coating/adhesive)	
- General	4.6
- Architectural coatings	7.9
- Ultraviolet coatings	6.7
* Cleaning of application equipment (ink)	
- General	0.42
- Flexographic	
~ general	0.42
~ plastics, coated paper, metal foil	7.4
- Rotogravure	
~ publication	6.3
~ packaging	0.42
- Lithographic or letterpress	
~ on -press components	(30% by wt)
~ removable press components	0.42
- Screen Printing	6.4
- Ultraviolet ink (except screen printing)	6.7
* Cleaning of application equipment (polyester resin)	
	0.42

- ✗ automatically applied blanket or roller wash.

The cleaning device or method requirements (s. NR 423.035(4)) or the alternative compliance option (s. NR 423.035(8)) do **not** apply to cleaning operations that use solvent or solvent solutions with no more than 0.42 pounds of VOC per gallon.

Requirements

If the rule **does** apply to you, then you have until **January 1, 2002** to change your solvents to ones that meet the VOC content limits. **Table 1** contains a list of the VOC content limits for the different processes that are considered industrial cleaning operations.

Other requirements, such as specific solvent application methods or equipment (whether application or control devices) as well as monitoring of leaks, storage and disposal procedures, record-keeping and reporting may apply. These are described here:

Cleaning Devices and Methods

One or more of the approved methods or devices must be used to apply the solvent or solvent solutions:

- physically rub a surface with a rag, paper, sponge or cotton swab moistened with the solvent;
- closed containers or hand held spray bottles to apply solvent without aerosols or other propellants;
- equipment that can be closed at all times except when placing or removing items to be cleaned;
- remote reservoir cleaner with cover or valve to close off reservoir, flow directed to prevent splashing, no porous items allowed and maintained leak-free;
- a non-atomized flow method with closed collection system for used solvent; or
- flushing method with closed collections system for used solvent.

Storage and Disposal

Non-absorbent, non-leaking containers must be used to store solvents and solvent solutions. These containers must be closed at all times except when filling or emptying. Any porous materials moistened with solvents or solvent solutions must also be stored in closed, non-absorbent, non-leaking containers.

Control Equipment

You may install control equipment instead of meeting the limits in **Table 1** or using the cleaning devices and methods required as long as the control meets one of the following:

- ❶ an overall control efficiency of 85% for VOC emissions;
- ❷ a VOC capture efficiency of 90% and an output VOC concentration of 50 ppm, with no dilution;
- ❸ the requirements of any other applicable RACT rule under chapters NR 420 to 422.

General Prohibitions

No solvent or solvent solution can be atomized unless one of the control devices is used.

Compliance Required by January 1, 2002

Alternative Compliance Option

Instead of meeting the limits in **Table 1**, a facility can use any solvent or solvent solution that has a partial pressure of less than or equal to 10 mmHg.

Recordkeeping

For each of the exemptions, you must keep records based on the time frame of that exemption. If it's in gallons per day, you must keep daily records of the gallons you use of the solvents used for industrial cleaning operations. Similarly for the limits in **Table 1** or the alternative option, you must keep records in the appropriate units, e.g. pounds VOC per gallon, etc. If you have a control device, then you must also keep records of any stack test results to demonstrate the percent efficiency for capture and control. **All of these records must be maintained for five**



Contacts for More Information or Assistance.

The Small Business Clean Air Assistance Program helps smaller businesses understand and comply with the Clean Air Act regulations. Contact one of the program's Clean Air Specialists for more assistance: Renée Lesjak Bashel at 608/264-6153 or Tom Coogan 608/267-9214.

For further information on the industrial cleaning RACT contact your DNR Regional or Service Center office shown on the **DNR Contact Fact Sheet** or the DNR's Central office at 608/266-2856